

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF OHIO
EASTERN DIVISION**

CODA DEVELOPMENT s.r.o., CODA
INNOVATIONS s.r.o., and FRANTISEK
HRABAL,

PLAINTIFFS,

vs.

GOODYEAR TIRE & RUBBER
COMPANY and ROBERT BENEDICT,

DEFENDANTS.

CASE NO. 5:15-cv-1572

JUDGE SARA LIOI

**FINDINGS OF FACT,
CONCLUSIONS OF LAW,
AND ORDER**

This matter is before the Court for findings of fact and conclusions of law pursuant to Fed. R. Civ. P. 52(a)(1) on the claims of plaintiffs, Coda Development s.r.o., Coda Innovations s.r.o., and Frantisek Hrabal (“Hrabal”) (collectively, “Coda” or “plaintiffs”), for correction of inventorship under 35 U.S.C. § 256¹ and on the affirmative defense of laches asserted by defendants Goodyear Tire & Rubber Co. and Robert Benedict (“Benedict”) (collectively, “Goodyear” or “defendants”).

¹ Specifically, plaintiffs’ remaining equitable claims include Count One for correction of inventorship of U.S. Patent 8,042,586 (“the ‘586 Patent”) (*see* Doc. No. 53, First Amended Complaint, ¶¶ 113–26), Count Five for declaratory relief (*id.* ¶¶ 180–83), and the request for an injunction (*id.*, Prayer for Relief). Plaintiffs affirmatively abandoned Count Two—the joint inventorship claim regarding U.S. Patent 8,113,254—in light of the jury’s verdict with regard to trade secret numbers 1 and 2. (*See* Doc. No. 378, at 7 n.1.) That verdict has not been disturbed by any of the Court’s post-trial rulings. Therefore, the Court acknowledges Coda’s abandonment and dismisses Count Two with prejudice.

Except for trial transcripts, all page number references herein are to the consecutive page numbers applied to each individual document by the Court’s electronic filing system, a practice recently adopted by the Court (which differs from the directives in the Initial Standing Order (Doc. No. 19)). Because the various volumes of trial transcripts are consecutively numbered from page 1 to page 2804, rather than citing to any individual transcript’s page number applied by the electronic filing system, the Court will instead cite to the actual transcript page number(s) applied by the court reporters.

The parties filed briefs on the remaining equitable claims and defenses. (*See* Doc. No. 378, Plaintiffs’ Opening Brief on Equitable Claims; Doc. No. 380, Defendants’ Brief in Opposition to Plaintiffs’ Equitable Claims; Doc. No. 384, Plaintiffs’ Reply Brief in Support of Its Equitable Claims; Doc. No. 377, Defendants’ Memorandum in Support of Their Affirmative Defense of Laches; Doc. No. 381, Plaintiffs’ Brief in Opposition to Defendants’ Affirmative Defense of Laches; Doc. No. 386, Defendants’ Reply in Support of Their Affirmative Defense of Laches.) These matters are now ripe for resolution.

I. SUMMARY BACKGROUND

In August 2015, Coda filed this lawsuit against Goodyear, alleging theft of twenty-seven trade secrets and seeking correction of inventorship of certain of Goodyear’s patents, as well as various forms of equitable relief. During discovery, Coda withdrew misappropriation allegations as to ten of its trade secrets, reducing the number of alleged misappropriated trade secrets to seventeen.²

A jury trial was conducted in September 2022, as to the trade secrets claim—Count Four of the first amended complaint (Doc. No. 53 ¶¶ 149–79). After the parties rested, the Court found that five of the alleged trade secrets were not definite enough to go to the jury. (*See* Doc. No. 364, Transcript [“Tr.”] at 2644–50.) Of the twelve allegedly misappropriated trade secrets that were

² Because Coda’s disclosure took place entirely orally, Goodyear had moved early on for an order directing Coda to articulate a “closed list” of alleged trade secrets that it had allegedly disclosed, so as to ward off attempted modification of the trade secrets as the case proceeded through discovery and trial preparation. This was not an unfounded fear; in fact, three months after this case commenced, in Coda’s November 9, 2015, opposition to Goodyear’s motion to dismiss, which argued in part that the complaint was not sufficiently specific, Coda simply argued that “Goodyear knows what it took and knows full well how Coda’s secrets were incorporated into its patents[.]” (Doc. No. 23, Plaintiffs’ Opposition, at 7.) In light of this apparent strategy of evasiveness on Coda’s part, the Court granted Goodyear’s request for a “closed list.” (*See* Minute Order (non-document), dated 11/1/2019; Doc. No. 82, Memorandum Opinion and Order.) Coda first listed twenty-seven secrets (*see* Doc. No. 223-20, Coda’s Supplemental Responses to Defendants’ First Set of Interrogatories, at 24–27) but, by the time of trial had withdrawn ten and proceeded with only seventeen (*see* Doc. No. 223-1, Email from Scott Richey to Calvin Griffith dated 2/3/2021).

sent to the jury,³ the jury rendered verdicts in favor of Coda and against Goodyear on only five, and it awarded Coda both compensatory and punitive damages. After the jury's verdicts were delivered, Goodyear renewed its motion under Fed. R. Civ. P. 50(b) for judgment as a matter of law under Fed. R. Civ. P. 50(a) as to plaintiffs' trade secrets misappropriation claim. The Court has now, by separate memorandum opinion and order, resolved in defendants' favor the renewed Rule 50(b) motion for judgment as a matter of law relating to that claim, setting aside the jury's verdicts in all respects. (Doc. No. 392.)

Therefore, the only substantive claim remaining is Count One for correction of inventorship under 35 U.S.C. § 256 as it relates to Goodyear's '586 Patent, which the Court had scheduled for a bench trial after the jury trial on plaintiffs' trade secrets misappropriation claim. Plaintiffs subsequently informed the Court that "no further trial proceedings are required and that Coda's equitable claims can be decided through briefing[.]" (Doc. No. 371, Notice as to Inventorship Claims and Request to Cancel Scheduled Bench Trial, at 1.) Defendants were in agreement (*id.*) and the Court approved that plan (*see* Doc. No. 372, Order).

In its briefing, Coda alleges that Hrabal, not the named inventors Robert Allen Losey ("Losey")⁴ and/or Robert Leon Benedict ("Benedict"), is "the rightful sole inventor of the '586 [P]atent." (Doc. No. 378, at 8.) Coda claims that Hrabal "conceived of the novel feature of the '586 Patent, which is the placement of a peristaltic tube in a sidewall groove such that the tube is closed by the sidewall compressing itself." (*Id.*) Coda argues that "an order should issue to the Director of the United States Patent and Trademark Office to correct the inventorship of the '586 Patent,

³ For these twelve alleged trade secrets, the Court expressly reserved its right to revisit the legal issue of definiteness, as well as other issues raised in Goodyear's Rule 50 motions. (Tr. at 2650–51.)

⁴ Losey was originally a named defendant but was voluntarily dismissed by Coda on February 1, 2021. (*See* Doc. No. 217, Agreed Motion and Stipulation for Partial Dismissal, at 1 (also dismissing the third cause of action).)

naming Mr. Hrabal as the sole inventor.” (*Id.* at 9.) In the alternative to correction of inventorship, Coda asserts that “the Court should equitably assign ownership of the '586 Patent to Coda.” (*Id.*) Finally, Coda asserts that, in any event, “this Court should enjoin Goodyear” in various ways or grant Coda “a reasonable royalty for any use by Goodyear of [Coda’s] trade secrets.” (*Id.*)

Goodyear asserts an affirmative defense of laches, arguing that “Coda unreasonably waited years to press its claims against Goodyear[,] . . . caus[ing] immense prejudice to Goodyear and to the judicial system [because] [p]ercipient witnesses died, unrecorded and uncorroborated secrets, allegedly orally transferred to Goodyear in 2009, were asserted as fact 13 years after their alleged transmission, leading to a trial that was conducted not on what secrets (if any) were actually conveyed orally in 2009, but on alleged secrets crafted by investors and lawyers *after this lawsuit was filed in 2015.*” (Doc. No. 377, at 5 (footnote omitted; emphasis in original).)⁵

After considering the witness testimony during the jury trial and the admitted documentary and physical evidence, the Court makes its findings of fact and conclusions of law pursuant to Fed. R. Civ. P. 52(a). These findings of fact and conclusions of law represent the Court’s consideration of the evidence in light of the pertinent law, as well as the Court’s consideration and evaluation of the witnesses’ qualifications, demeanor, and credibility. Further, any conclusion of law that may be construed to include a finding of fact is hereby adopted as a finding of fact (and vice versa). Finally, if a finding of fact or conclusion of law is pertinent to any determination other than that indicated by the heading under which it appears, it is deemed adopted as a finding of fact or

⁵ Goodyear asserts this affirmative defense as to *all* of Coda’s claims (including misappropriation of trades secrets). In light of the Court’s ruling herein, as well as its ruling on Goodyear’s renewed Rule 50(b) motion, laches need not be addressed. That said, the Court finds merit in Goodyear’s assertion of this defense. Coda claims Hrabal orally disclosed his secret SIT technology to Goodyear in 2009. Although Coda learned of Goodyear’s own SIT program (called AMT) in December 2009 and further learned of Goodyear’s supposedly offending patents no later than August 2011, it waited until August 2015 to file this lawsuit. Goodyear asserts, correctly in this Court’s view, that “Coda intentionally, and unreasonably, delayed asserting its claims, to Goodyear’s prejudice.” (Doc. No. 377, at 6.)

conclusion of law applicable to such other determination or determinations as may be appropriate. *See Reznick v. Provident Life & Acc. Ins. Co.*, 364 F. Supp. 2d 635, 636 (E.D. Mich. 2005).

II. PRELIMINARY MATTER: NEW EXHIBITS

One preliminary matter must be addressed before the Court begins its analysis and renders its decision on Coda's remaining claim.

Although the parties and the Court had already agreed to a briefing schedule (*see* Minute Order (non-document), dated 9/22/2022, setting October 13, 2022, as the date for opening briefs) following plaintiffs' unopposed request to forgo the bench trial on the inventorship claim, on September 29, 2022, plaintiffs filed, without leave, a document styled "Bench Memorandum on Inventorship Claims" (Doc. No. 373). Attached to this bench memorandum were an affidavit of Hrabal (Doc. No. 373-1) and four exhibits (Ex. P-1126, Ex. P-1127, Ex. P-1128, and Ex. P-1129). In his declaration, Hrabal attests that the four exhibits were various pieces of correspondence exchanged between him and MPR.⁶ Coda now wishes to include them in the record for the Court to consider as corroboration of Hrabal's conception of the invention in the '586 Patent.

Plaintiffs assert that, although they do not technically *need* these exhibits as proof (because Hrabal's testimony from the jury trial will be sufficient), it is within this Court's discretion to consider these exhibits, which were not presented at trial because they were not relevant to the trade secret claims. (Doc. No. 373, at 1–2 (citing cases).) With respect to why the exhibits were not presented at trial, plaintiffs are correct; but defendants importantly argue in opposition that these four exhibits should not be admitted or considered because they were never produced during

⁶ MPR was a company that Hrabal worked with beginning in the summer of 2009, and eventually hired in or around November 2009, to help him develop a technical market analysis for his SIT technology. (*See generally* Doc. No. 355, Tr. at 342, *et seq.*) MPR created a report that was admitted at trial. (*See*, Ex. P-910, Self Inflating Tire Technical Market Analysis.)

discovery in response to Goodyear's interrogatory that requested evidence of Hrabal's alleged conception of the '586 Patent. (Doc. No. 380, at 4.)

Plaintiffs have not refuted this assertion in their reply brief. Plaintiffs argue only that Goodyear can claim no "surprise" or "unfair prejudice" because it was Goodyear who subpoenaed these documents from MPR, noticed its deposition and then canceled it, and that it was Goodyear who examined Hrabal (at his deposition and at trial) about his engagement of MPR, but chose not to present the documents at trial. (Doc. No. 384, at 13.)

Coda's arguments are unavailing. If Coda wanted these documents to be part of the record in support of its inventorship claim, Coda should have proceeded with the bench trial or sought leave to admit the documents *before* it asked the Court to cancel the bench trial. At the very least, it should have advised Goodyear of its intent to present these exhibits *before* Goodyear agreed to submit the inventorship Claim to the Court on briefing based upon the jury trial record. By proceeding as it did, Coda has denied Goodyear the opportunity to cross-examine Hrabal or anyone from MPR who may have been called to testify regarding the documents. Coda, having waived the opportunity for a bench trial where it could have presented testimony regarding these documents, now unfairly prejudices Goodyear in asking the Court to consider them without giving Goodyear the opportunity to cross-examine anyone on the issue of inventorship regarding the documents.

Moreover, even if the Court were to consider Hrabal's affidavit and the four exhibits, they add nothing to the merits of the case. The exhibits reflect no more than back-and-forth emails between Coda and MPR discussing the contours of a possible market analysis to be performed by MPR. They do not show that Hrabal conceived of "a definite and permanent idea of an operative invention, including every feature of the subject matter sought to be patented." *Sewall v. Walters*,

21 F.3d 411, 415 (Fed. Cir. 1994) (citation omitted). In fact, the documents refer to several “options” or methods of “implement[ing]” the self-inflating features into a tire: “molded into the tire,” “integrated into the rim,” “independent device,” and “integrated during retread.” (Doc. No. 373-2, at 3.) These documents would not corroborate Hrabal’s claim of inventorship. They would do no more than show that Hrabal, (or perhaps someone else, as it is not clear who came up with the options), like others (including Goodyear), was thinking about different ways to create a self-inflating tire. They do not corroborate anything close to conception or invention (either in general or particularly as to the '586 claims) by Hrabal. (*See also infra* n.11.)

Accordingly, the Court will disregard Doc. Nos. 373-1, 373-2, 373-3, 373-4, and 373-5 when considering the issue before it.

III. SUMMARY CONCLUSION

Due to the complexity and detail set forth below, the Court includes at this juncture a summary of its ultimate findings and conclusions. The Court believes this summary overview will assist the reader’s understanding of the significance of any individual finding and/or conclusion set forth herein.

Coda claims that Hrabal invented what Goodyear ultimately patented in the '586 Patent; Coda is asking that Hrabal be declared the inventor of that patent. As will be set forth below, in order to prevail on this claim, Coda must establish by clear and convincing evidence that, before December 21, 2009, Hrabal conceived a definite and permanent idea of the complete and operative inventions claimed in the '586 Patent, including *every* feature or limitation of the claimed inventions. If Coda fails as to any *one* feature or any *one* limitation, it cannot prevail on its inventorship claim.

The '586 Patent contains two independent claims—Claim 1 and Claim 18—which contain, respectively, the following limitation relating to the optimal location of the “tube-in-groove pump”:

a sidewall groove positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall [Claim 1], and

a sidewall groove extending into an outward facing side of the sidewall and positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall [Claim 18].

The Court finds that these are salient features of the invention, particularly as it pertains to the issues in this case.

Coda claims to have conceived this optimal location, but as will be set forth below, Hrabal’s optimal location (if it can even be discerned on this record) is not the same as the optimal location claimed in the '586 Patent, as made evident by the credible and convincing testimony of defendant Benedict. In fact, Hrabal’s claimed optimal location (described by him in terms of a “scissor effect” where placing the pump closest to the neutral axis—*i.e.*, the fulcrum—is optimal) is actually the opposite of what is claimed in the limitations quoted above (which require placement as far away from the neutral axis as possible).

As a result of Coda’s failure to establish that Hrabal conceived of these salient features of the two independent claims of the '586 Patent, the Court need not examine any other claims of the patent (although it finds that Coda has similarly failed to prove conception by Hrabal of the other claims, as well), as Coda cannot prevail on its claim of inventorship.

IV. FINDINGS OF FACT

In preface, the Court notes that, had the jury's verdict withstood Goodyear's Rule 50(b) motion, the Court would have been constrained by any relevant fact-finding of the jury when deciding the instant equitable matters. *Kitchen v. Chippewa Valley Sch.*, 825 F.2d 1004, 1014 (6th Cir. 1987) (“[W]hen a party has a right to a jury trial on an issue involved in a legal claim, the judge is . . . bound by the jury's determination of that issue as it affects his disposition of an accompanying equitable claim.” (citations omitted)).

Because this Court has set aside the jury's verdicts, any fact-findings are now within the Court's province to make with respect to the remaining correction of inventorship claim.⁷ *See Hanna v. Cnty. of Wood*, Nos. 88-3893/88-4057/88-4084, 1990 WL 8721, at *4 (6th Cir. Feb. 6, 1990) (concluding that the district court remained bound, in deciding the equitable issues, by the jury's findings on the legal issues because the district court had improperly set aside those findings on a Rule 50(b) motion when defendant had failed to comply with the rule's requirements—suggesting that if the Rule 50(b) motion had been properly granted, the district court would no longer have been bound by the jury's factual findings).

As noted, plaintiffs decided (and defendants agreed) to forgo the bench trial on this claim. In light of that fact, and having set aside the jury's verdicts, the Court must make its own findings of fact based on the trial record as it stands.

⁷ To the extent Coda bases its arguments with respect to the inventorship claim on the fact that the jury returned certain verdicts in its favor, because all those verdicts have been set aside, such arguments are summarily rejected. (*See* Doc. No. 384-1, Plaintiffs' Objections and Responses to Defendants' Proposed Findings of Fact on Plaintiffs' Equitable Claims, *passim*.)

A. U.S. Patent No. 8,042,586 (the '586 Patent)

1. Defendant Benedict credibly testified at trial that, prior to meeting with Coda in 2009, he had been interested in self-inflating tires “since [the] early 2000s,” that he “had been doing research in the background for quite some time[,]” and “it was something [he] had a long interest in. [He] did a lot of background research.” (Doc. No. 361, Tr. at 1830.)⁸

2. In December 2008, Benedict authored a presentation titled “Self Inflating Tires.” The presentation documents Benedict’s pre-2009 research on self-inflating tire technology, including Coda’s publicly available information. (Ex. P-389.)

3. When Benedict testified at trial about page 3 of Ex. P-389, he noted, and the Court finds, that “inflating tires with a peristaltic pump wasn’t a new idea. It’s very old.” (Doc. No. 361, Tr. at 1831.)

4. The application leading to the '586 Patent was filed on December 21, 2009, and the '586 Patent issued on October 25, 2011. The '586 Patent is titled “Self-Inflating Tire Assembly” and lists Losey and Benedict as the inventors and The Goodyear Tire & Rubber Company as the assignee. (*See* Ex. P-8, U.S. Patent No. 8,042,586.)

5. The '586 Patent identifies the field of invention as “relat[ing] generally to self-inflating tires and, more specifically, to a tire assembly incorporating a pump mechanism.” (*Id.* at 1:5–7.)

6. The '586 Patent summarizes the invention as follows:

[A] self-inflating tire assembly includes a rim having a tire mounting surface extending between first and second rim flanges; a tire mounted to the rim tire

⁸ As already noted, because the various volumes of trial transcripts are consecutively numbered from page 1 to page 2804, rather than citing to any individual transcript’s page number applied by the electronic filing system (which is the Court’s usual practice), the Court will instead cite to the actual transcript page number(s) applied by the court reporters.

mounting surface, the tire having a tire cavity, and first and second sidewalls extending respectively from first and second tire bead regions to a tire tread region. The first sidewall includes a bending region operatively bending within a rolling tire footprint responsive to a bending strain. A sidewall groove is positioned within a compression side of a neutral axis of the bending region and an air tube is positioned within the sidewall groove in contacting engagement with opposite groove surfaces at least partially surrounding the air tube. The sidewall groove operatively bends within the compression side of the bending region responsive to a bending strain within the rolling tire footprint to compress the air tube from an expanded diameter to a flat diameter adjacent the rolling tire footprint, whereby forcing evacuated air from a flattened air tube segment along the air passageway.

(*Id.* at 1:28–46.)

7. The '586 Patent contains 19 claims. Claims 1 and 18 are independent claims, and the remainder are dependent.

8. Claim 1 of the '586 Patent recites:

1. A self-inflating tire assembly comprising:
 - a rim having a tire mounting surface extending between first and second rim flanges;
 - a tire mounted to the rim tire mounting surface, the tire having a tire cavity, first and second sidewalls extending respectively from first and second tire bead regions to a tire tread region;
 - the first sidewall having at least one bending region operatively bending within a rolling tire footprint responsive to a bending strain, whereby the bending region in a bending condition within said rolling tire footprint having a bending strain neutral axis, a compression side of the neutral zone, and an elongation side of the neutral zone;
 - a sidewall groove positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall;
 - an air tube positioned within the sidewall groove in contacting engagement with opposite groove surfaces at least partially surrounding the air tube, the sidewall groove operatively bending within the bending region responsive to the bending strain within the rolling tire footprint to compress the air tube from an expanded diameter to a flat diameter adjacent the rolling tire footprint, whereby forcing evacuated air from a flattened air tube segment along the air passageway.

9. Claim 2 recites:
 2. The tire assembly of claim 1, wherein the air tube and the sidewall groove are located within a sidewall region of the first tire sidewall above an upper boundary of the rim.
10. Claim 3 recites:
 3. The tire assembly of claim 2, wherein the groove surfaces contact the air tube and bend within a footprint of a rotating tire to operatively close an air tube segment within the tire footprint.
11. Claim 4 recites:
 4. The tire assembly of claim 3, wherein the air tube comprises an annular body extending substantially a circumference of a tire first sidewall.
12. Claim 5 recites:
 5. The tire assembly of claim 4, wherein the sidewall groove is annular and located proximally above the upper boundary of the rim.
13. Claim 6 recites:
 6. The tire assembly of claim 1, wherein the groove extends into an annular, substantially axially extending, sidewall surface.
14. Claim 7 recites:
 7. The tire assembly of claim 6, wherein the annular sidewall surface comprises a substantially axially oriented surface of a tire chafer protrusion located in non-contacting relationship with the rim, the groove extending into the annular sidewall surface in substantially a radial direction.
15. Claim 8 recites:
 8. The tire assembly of claim 1, wherein the sidewall groove includes a sidewall groove opening operatively sized to closely admit the air tube.
16. Claim 9 recites:
 9. The tire assembly of claim 8, wherein substantially the entirety of the air tube resides within the sidewall groove.

17. Claim 10 recites:

10. The tire assembly of claim **9**, wherein first and second angled groove surfaces define opposite sides of the sidewall groove, each angled groove surface comprising first and second tube contacting surfaces adjoining at an angled intersection, and wherein the tube contacting surfaces of the first and second angled groove surfaces operatively contact the air tube at space apart intervals surrounding and substantially circumscribing the air tube.

18. Claim 11 recites:

11. The tire assembly of claim **10**, wherein the first and second angled groove surfaces converge and join at an inward terminal groove end and operatively flex inwardly about the terminal groove end to constrict the sidewall groove and flatten a footprint segment of the air tube within the groove.

19. Claim 12 recites:

12. The tire assembly of claim **11**, wherein an inward portion of the groove at the terminal groove end is substantially U-shaped.

20. Claim 13 recites:

13. The tire assembly of claim **12**, wherein an inward portion of the groove at the terminal groove end is substantially U-shaped.

21. Claim 14 recites:

14. The tire assembly of claim **13**, wherein the first and second angled groove surfaces converge toward the inward portion of the groove.

22. Claim 15 recites:

15. The tire assembly of claim **14**, wherein the groove extends into an annular, substantially axially extending, sidewall surface.

23. Claim 16 recites:

16. The tire assembly of claim **15**, wherein the annular sidewall surface comprises a substantially axially oriented surface of a tire chafer protrusion located in non-contacting relationship with the rim and the groove extending into the annular sidewall surface in substantially a radial direction.

24. Claim 17 recites:

17. The tire assembly of claim **1**, wherein the sidewall groove is positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall at a substantially maximum distance from the neutral axis.

25. Claim 18 recites:

18. A self-inflating tire assembly comprising:
a rim having a tire mounting surface extending between first and second rim flanges;
a tire mounted to the rim tire mounting surface, the tire having a tire cavity, first and second sidewalls extending respectively from first and second tire bead regions to a tire tread region;
the first sidewall having at least one bending region operatively bending within a rolling tire footprint responsive to a bending strain, whereby the bending region in a bending condition within said rolling tire footprint having a bending strain neutral axis, a compression side of the neutral zone, and an elongation side of the neutral zone;
a sidewall groove extending into an outward facing side of the sidewall and positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall, the sidewall groove being at least partially open to the outward facing side of the sidewall;
an enclosed air conducting air tube positioned within the sidewall groove in contacting engagement with opposite groove surfaces at least partially surrounding the air tube, the sidewall groove operatively bending within the bending region responsive to the bending strain within the rolling tire footprint to compress the air tube between the opposite groove surfaces from an expanded diameter to a flat diameter adjacent the rolling tire footprint, whereby forcing evacuated air from a flattened air tube segment along the air passageway.

26. Claim 19 recites:

19. The tire assembly of claim **18**, wherein the sidewall groove and the air tube therein are recessed within the first tire sidewall outward facing side.

(*Id.* at 10:29–12:38.)

27. Coda has abandoned any claim that Hrabal is the co-inventor of the '586 Patent (or any other patent),⁹ seeking only that Hrabal be declared the sole inventor of the '586 Patent and that he be substituted for Losey and Benedict.

B. Facts Relevant to Conception and Inventorship

28. Hrabal testified about sitting at a traffic light one day and noticing the deformation in a tire sidewall. That gave him the idea to experiment with self-inflating tires and, in particular, to test whether a peristaltic pump powered by the compression of the deformation was capable of generating sufficient pressure to inflate a tire. (Doc. No. 355, Tr. at 369–70.)

29. Around 2001, Hrabal attached a peristaltic pump with a check valve to the circumference of a bicycle tire and turned the loaded bicycle tire on a stand; the assembly achieved pumping sufficient to overcome the resistance of the check valve. (*Id.* at 369–74 (Hrabal: “[I]n the experiment I spin the tire and I saw that the balloon is inflating.”); *see also* Exs. P-522 and P-523 (undated photographs of the bicycle tire prototype).) From this experiment, Hrabal “learned that peristaltic pump on the tire makes sense.” (*Id.* at 372.)

30. Around 2001 or 2002, Hrabal made his “first attempt to place the hose into the tire itself,]” by carving a groove into “the bottom part of the bead” of the tire; but he later discovered

⁹ In the first amended complaint, Count One is captioned as a “correction of inventorship” claim. (*See* Doc. No. 53, First Amended Complaint.) Therein, Coda alleges that “Hrabal is not named as an inventor in the '586 Patent[,]” (*id.* ¶ 118), that “Mr. Losey and Mr. Benedict are, through error, named in the '586 Patent as inventors[,]” (*id.* ¶ 120), and, “[i]n the alternative, Mr. Hrabal contributed to the conception of at least one of the inventions claimed in the '586 Patent[.]” (*id.* ¶ 121). Despite the allegation in ¶ 121, in post-trial briefing Coda has advanced no co-inventorship argument. (*See* Doc. No. 378, at 8 (“Hrabal is the rightful sole inventor of the '586 [P]atent”).) It is unavailing that, in its objections to Goodyear’s proposed findings of fact and conclusions of law, Coda claims that “the Court should nonetheless find that Mr. Hrabal is at least a co-inventor of the '586 [P]atent.” (*See* Doc. No. 384-1, at 29; *see also id.* at 39; 40; 164–65.) This one-line assertion in a reply brief is too little, too late, in light of the narrower argument in Coda’s opening brief. Notably, even Coda’s earlier brief filed without leave (*see* Doc. No. 373) raises no co-inventorship argument.

that “the bead is too rigid . . . for operation of the peristaltic pump in this location.” (*Id.* at 372–73; *see also* Ex. P-525 (undated photograph of this “first attempt”).)

31. Around the end of 2003, Hrabal built a testing rig so as to simulate a tire under the load of a vehicle’s weight; this allowed him to observe how different parts of a tire behave as the tire rotates under load. (*Id.* at 374–82; *see also* Exs. P-548 and P-552 (photographs of physical exhibits).)

32. By 2007 or 2008, through testing on his various prototypes, Hrabal claims to have determined an “optimal location” for a tube-in-groove pump. (*Id.* at 330, 333–34.)

33. Coda’s SIT prototype was a physical exhibit during the jury trial. (*See* Ex. P-886 (photograph of the physical exhibit).) Hrabal testified that he completed the prototype before 2009 and that a video of it being tested was publicly disclosed on Coda’s website prior to 2009. (Doc. No. 356, Tr. at 605–06.)

34. Hrabal described how he created the prototype by affixing an epoxy extension to the tire sidewall and another epoxy extension to the wheel rim and placed a tube between the two extensions to act as a peristaltic pump as the tire sidewall extension pinched the hose against the rim extension. He used this “extension” method because, not being a tire manufacturer, he did not have the ability to make a groove in the tire itself. (Doc. No. 355, Tr. at 332–33, 335; Doc. No. 356, Tr. at 605, 608.)

35. Hrabal testified that the “optimal location for the tube in groove peristaltic pump” is not visible on his prototype (Doc. No. 355, Tr. at 333–34), but he claimed that it was “behind this extension . . . in the tire sidewall inside.” (*Id.* at 334.) Hrabal testified that the sidewall and rim extensions of the prototype “are working like scissors” in which “you have to push your object towards the axis of the scissors.” (*Id.* at 334.)

36. Coda presented no evidence to independently corroborate any of Hrabal's testimony regarding his alleged conception of the relevant technology or to authenticate his undated photographs.¹⁰

37. Benedict credibly testified that the '586 Patent described the opposite principle of Hrabal's "scissor effect":

Q. Dr. Benedict, were you in court when Mr. Hrabal was describing the scissor effect?

A. Yes.

Q. And do you recall him saying if you want to cut something you have to push your object towards the axis of the scissors?

A. Yes.

Q. Are you using that idea in your patent?

A. No. Actually we're using the opposite idea. You want to be as far out as you can. You don't want to be in at the pivot point.

(Doc. No. 361, Tr. at 1882.)

38. Benedict explained that the '586 Patent's disclosure that "the sidewall groove is positioned within the compression side of the bending region a maximum distance from the neutral axis" means that "when you have bending, this point that's furthest away from the neutral axis gets the most compression. And this point furthest away on the other side gets the most extension. And then the neutral axis has neither. So if you're looking to pinch a tube by closing the slot, you want

¹⁰ Although Coda introduced at trial a non-disclosure agreement dated July 29, 2009, between itself and MPR, a third-party engineering firm purportedly hired by Coda to help it create a technical marketing analysis for Coda's SIT technology, the agreement was not executed by Coda, but only by MPR. (*See* Ex. P-627.) As already noted above, the Court will not permit Coda's improper attempt to belatedly introduce by way of post-trial briefing additional evidence relating to its alleged relationship with MPR.

to put it in the compression region as far as away from the neutral axis as you can so you get the motion you need to pinch that tube closed.” (*Id.* at 1881–82.)

39. The term “bending region” has been a point of disagreement in this case. Although Hrabal never used this term, Coda insists that the “optimal location” for the peristaltic pump that Hrabal identified to Goodyear is “in the bending region,” but, based upon the testimony of Hrabal and others, the Court finds Coda’s position unconvincing.

40. Notably, and importantly, Hrabal offered no testimony that convinced this Court that he was the inventor of any of the claims of the '586 Patent. Nor did he testify that he had conceived of each and every limitation of each and every claim of the '586 Patent, or how or when he supposedly conceived of those features. Although Hrabal baldly testified: “I’m a inventor of the self-inflating tire” (Doc. No. 355, Tr. at 317), he also admitted that others had experimented with (and patented) the use of a peristaltic pump to self-inflate a tire. (*Id.* at 330.) In fact, some such experimentation occurred before 2009. (Doc. No. 356, Tr. at 580–81.)

V. CONCLUSIONS OF LAW

A. 35 U.S.C. § 256 (Correction of Named Inventor)

1. Section 256 of Title 35 permits correction of inventorship of a patent, without invalidating the patent, “[w]hen . . . through error an inventor is not named in an issued patent[.]” Where, as here, that determination is requested of a district court by way of a lawsuit, the court “may order correction of the patent on notice and hearing of all parties concerned and the Director shall issue a certificate accordingly.”

2. “Because issued patents are presumed to correctly name their inventors, the burden of proving nonjoinder of inventors is a heavy one, which must be demonstrated by clear and convincing evidence.” *Meng v. Chu*, Nos. 2014-1746, 2015-1390, 2016 WL 1321127, at *4 (Fed.

Cir. Apr. 5, 2016) (quotation marks and citation omitted); *see also Hess v. Adv. Cardiovascular Sys., Inc.*, 106 F.3d 976, 980 (Fed. Cir. 1997) (“[O]ne claiming that the inventor listed in the patent derived the invention from the claimant’s work must show derivation by clear and convincing evidence[.]” (citing *Amax Fly Ash Corp. v. United States*, 514 F.2d 1041, 1047 (Ct. Cl. 1975))).

B. Law of Inventorship

3. Conception is “the touchstone of inventorship.” *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1227 (Fed. Cir. 1994). “The definition of conception in patent law has remained essentially unchanged for more than a century. It is the formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice. At that point, all that remains to be accomplished, in order to perfect the art or instrument, belongs to the department of construction, not creation.” *Dawson v. Dawson*, 710 F.3d 1347, 1352 (Fed. Cir. 2013) (internal quotation marks and citations omitted); *see also Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994) (“Conception is complete when one of ordinary skill in the art could construct the [claimed] apparatus without unduly extensive research or experimentation.”).

4. “Conception, and consequently inventorship, are questions of law[.]” *Sewall*, 21 F.3d at 415.

5. Since the application for what is now the '586 Patent was filed on December 21, 2009 (Ex. P-8, at 1), to prevail on its claim that Hrabal was the '586 Patent’s sole inventor,¹¹ Coda

¹¹ As already noted, Coda has abandoned any claim that Hrabal was the co-inventor of the '586 Patent. Had it not done so, Coda would have had to have established that Hrabal “contribute[d] in some significant manner to the conception of the invention.” *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1473 (Fed. Cir. 1997) (citations omitted). As such, “each inventor must contribute to the joint arrival at a definite and permanent idea of the invention as it will be used in practice.” *Burroughs Wellcome Co.*, 40 F.3d at 1229. “Inventors may apply for a patent jointly even though . . . each did not make a contribution to the subject matter of every claim of the patent.” 35 U.S.C. § 116. But, “[a] contribution

must show that, by December 21, 2009, Hrabal conceived a “definite and permanent” idea of the complete and operative inventions claimed in the '586 Patent, including “every feature or limitation of the claimed invention.” *REG Synthetic Fuels, LLC v. Neste Oil Oyj*, 841 F.3d 954, 962 (Fed. Cir. 2016) (citation omitted). “An idea is definite and permanent when the inventor has a specific, settled idea, a particular solution to the problem at hand, not just a general goal or research plan he hopes to pursue.” *Burroughs Wellcome Co.*, 40 F.3d at 1228.

6. Any testimony in support of a claim of inventorship must be corroborated; the putative inventor’s oral testimony alone will not suffice. *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1358 (Fed. Cir. 2004). “What is required is ‘corroborating evidence of a contemporaneous disclosure that would enable one skilled in the art to make the invention.’” *Thompson v. Haynes*, 305 F.3d 1369, 1384 (Fed. Cir. 2002) (quoting *Burroughs Wellcome*, 40 F.3d at 1228)); *see also Spansion, Inc. v. Int’l Trade Comm’n*, 629 F.3d 1331, 1356 (Fed. Cir. 2010) (“Because it is a mental act, an inventor’s oral testimony regarding conception must be corroborated by evidence which shows that the inventor disclosed to others his completed thought expressed in such clear terms as to enable those skilled in the art to make the invention.” (quotation marks and citations omitted)).

7. Evidence from a non-testifying third party cannot corroborate a putative inventor’s testimonial assertions. *Shu-Hui Chen v. Bouchard*, 347 F.3d 1299, 1309–10 (Fed. Cir. 2003); *see also id.* at 1308 (finding third-party notebooks could not corroborate inventorship of plaintiff because of “the failure of the notebooks’ alleged author [one Jianmei Wei] to testify; the fact that it was not established on the record that those notebooks were actually the notebooks of Wei,

of information in the prior art cannot give rise to joint inventorship because it is not a contribution to conception.” *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1362 (Fed. Cir. 2004).

except by the circular testimony of [plaintiff], whose activity was what was intended to be corroborated by the notebooks”).

8. “That rule [of corroboration] addresses the concern that a party claiming inventorship might be tempted to describe his actions in an unjustifiably self-serving manner” *Singh v. Brake*, 317 F.3d 1334, 1341 (Fed. Cir. 2003).

9. “[Corroboration] is evaluated under a rule of reason analysis, which requires that an evaluation of *all* pertinent evidence must be made so that a sound determination of the credibility of the inventor’s story may be reached.” *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1327 (Fed. Cir. 2004) (internal citations and quotation marks omitted) (emphasis in original).

Corroborating evidence may take many forms. Reliable evidence of corroboration preferably comes in the form of records made contemporaneously with the inventive process. Circumstantial evidence of an independent nature may also corroborate. Additionally, oral testimony from someone other than the alleged inventor may corroborate.

Id. (internal citations omitted).

10. “[A]n inventor’s conception can be corroborated even though no one piece of evidence in and of itself establishes that fact and even through circumstantial evidence.” *NFC Tech., LLC v. Matal*, 871 F.3d 1367, 1372 (Fed Cir. 2007) (internal quotation marks and citations omitted); *see also E.I. du Pont De Nemours & Co. v. Unifrax I LLC*, 921 F.3d 1060, 1077 (Fed. Cir. 2019) (“[O]ur case law does not require that evidence have a source independent of the inventors on every aspect of conception and reduction to practice; such a standard is the antithesis of the rule of reason.” (quotation marks and citations omitted)); *Fleming v. Escort Inc.*, 774 F.3d 1371, 1377 (Fed. Cir. 2014) (“[Defendant] is correct that none of the corroborating evidence

constitutes definitive proof of [plaintiff's] account or discloses each claim limitation as written. But the corroboration requirement has never been so demanding.”).

C. Law of Claim Construction

11. “[A]n inventorship analysis, like an infringement or invalidity analysis, begins as a first step with a construction of each asserted claim to determine the subject matter encompassed thereby.” *Trovan, Ltd. v. Sokymat SA*, 299 F.3d 1292, 1302 (Fed. Cir. 2002); *see also Egenera, Inc. v. Cisco Sys., Inc.*, 972 F.3d 1367, 1376 (Fed. Cir. 2020) (“[I]nventorship is a legal conclusion premised on underlying factual findings, and one that depends on claim construction.” (citing among authority *Trovan*, 299 F.3d at 1302)).

12. The first step of claim construction is to review “the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention.” *Vitronics Corp. v. Conceptronic*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). As a second step, “it is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning.” *Id.*

13. Claim construction begins with the principle that the language of the claims, which is “highly instructive” and entitled to significant weight, should generally be given its ordinary and customary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc). Generally, claim terms are given “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.” *Id.* at 1313. This “ordinary and customary meaning” is a meaning in context: “not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* at 1312–13; *see also Eon Corp. IP Holdings LLC v. Silver Spring Networks, Inc.*, 815 F.3d 1314, 1320 (Fed. Cir. 2016). Where claim

terms do not have a particular meaning in the relevant field of art, claim construction requires “little more than application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314.

14. While courts may deviate from the ordinary and customary meaning in some circumstances, there is a “heavy presumption that a claim term carries its ordinary and customary meaning.” *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). The standard for deviating from that meaning is “exacting” and requires “a clear and unmistakable disclaimer.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1366–67 (Fed. Cir. 2012); *see also Epistar Corp. v. Int’l Trade Comm’n*, 566 F.3d 1321, 1334 (Fed. Cir. 2009) (requiring “expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope” to deviate from the ordinary and customary meaning).

15. The other exception to applying the ordinary and customary meaning to the claim terms is where a patentee acts as its own lexicographer. *Thorner*, 669 F.3d at 1365 (citing *Vitronics Corp.*, 90 F.3d at 1580). “To act as its own lexicographer, a patentee must ‘clearly set forth a definition of the disputed claim term’ other than its plain and ordinary meaning.” *Id.* (quoting *CCS Fitness*, 288 F.3d at 1366).

16. “*Markman* [*v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996)] does not require a district court to follow any particular procedure in conducting claim construction. It merely holds that claim construction is the province of the court, not a jury. To perform that task, some courts have found it useful to hold hearings and issue orders comprehensively construing the claims in issue. Such a procedure is not always necessary, however.” *Ballard Med. Prods. v. Allegiance Healthcare Corp.*, 268 F.3d 1352, 1358 (Fed. Cir. 2001) (an infringement case where the plaintiff/appellant claimed the district court

erred by “fail[ing] to conduct a detailed, limitation-by-limitation construction of each of the asserted claims”).

17. “[I]nventorship is a claim-by-claim question.” *Egenera, Inc.*, 972 F.3d at 1372. But “[i]f the district court considers one issue to be dispositive, the court may cut to the heart of the matter and need not exhaustively discuss all the other issues presented by the parties. District courts have wide latitude in how they conduct the proceedings before them, and there is nothing unique about claim construction that requires the court to proceed according to any particular protocol” *Ballard*, 268 F.3d at 1358. “As long as the trial court construes the claims to the extent necessary to determine [the relevant issues], the court may approach the task in any way that it deems best.” *Id.*

18. A court need not construe every claim term; it need only construe terms that are disputed and whose construction impacts the ultimate determination. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997).

19. The '586 Patent itself defines specific terms and this Court is bound by those definitions to the extent they affect the ultimate determination. Where the '586 Patent is silent as to the meaning of terms, this Court accords such terms their ordinary and customary meaning.

E. Inventorship of the '586 Patent

20. “The invention [of the '586 Patent] relates generally to self-inflating tires and more specifically, to a tire assembly incorporating a pump mechanism.” (Ex. P-8, the '586 Patent, at 1: 5–7 [P-0008_0015].)

21. Benedict and Losey are presumed to be the true and correct inventors of the '586 Patent. *Caterpillar v. Sturman Indus., Inc.*, 387 F.3d 1358, 1377 (Fed. Cir. 2004) (“Patent issuance creates a presumption that the named inventors are the true and only inventors.”).

22. Where, as here, a plaintiff seeks to be declared the *sole* inventor of a patent on the basis of conception, the plaintiff is required to ““show possession of every feature recited in the c[laims], and that every limitation of the c[laims] must have been known to the inventor at the time of the alleged conception.”” *James v. J2 Cloud Servs., LLC*, 823 F. App’x 945, 949 (Fed. Cir. 2020) (quoting *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985)).

23. The '586 Patent has two independent claims (Claim 1 and Claim 18) and seventeen dependent claims. As already noted, Coda has abandoned any claim of co-inventorship relating to the '586 Patent. Therefore, if Coda is unable to establish conception by Hrabal of every limitation in either or both of the independent claims, the Court need proceed no further because that fact would already preclude Hrabal from claiming sole inventorship of the '586 Patent.

24. As noted above, Claim 1 of the '586 Patent states as follows:

1. A self-inflating tire assembly comprising:
 - a rim having a tire mounting surface extending between first and second rim flanges;
 - a tire mounted to the rim tire mounting surface, the tire having a tire cavity, first and second sidewalls extending respectively from first and second tire bead regions to a tire tread region;
 - the first sidewall having at least one bending region operatively bending within a rolling tire footprint responsive to a bending strain, whereby the bending region in a bending condition within said rolling tire footprint having a bending strain neutral axis, a compression side of the neutral zone, and an elongation side of the neutral zone;
 - a sidewall groove positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall;*
 - an air tube positioned within the sidewall groove in contacting engagement with opposite groove surfaces at least partially surrounding the air tube, the sidewall groove operatively bending within the bending region responsive to the bending strain within the rolling tire footprint to compress the air tube from an expanded diameter to a flat diameter adjacent the rolling tire footprint, whereby forcing evacuated air from a flattened air tube segment along the air passageway.

(Ex. P-8 at 10: 29–54 [P-0008_0019] (emphasis added).)

25. As noted above, Claim 18 states as follows:

18. A self-inflating tire assembly comprising:
a rim having a tire mounting surface extending between first and second rim flanges;
a tire mounted to the rim tire mounting surface, the tire having a tire cavity, first and second sidewalls extending respectively from first and second tire bead regions to a tire tread region;
the first sidewall having at least one bending region operatively bending within a rolling tire footprint responsive to a bending strain, whereby the bending region in a bending condition within said rolling tire footprint having a bending strain neutral axis, a compression side of the neutral zone, and an elongation side of the neutral zone;
a sidewall groove extending into an outward facing side of the sidewall and positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall, the sidewall groove being at least partially open to the outward facing side of the sidewall;
an enclosed air conducting air tube positioned within the sidewall groove in contacting engagement with opposite groove surfaces at least partially surrounding the air tube, the sidewall groove operatively bending within the bending region responsive to the bending strain within the rolling tire footprint to compress the air tube between the opposite groove surfaces from an expanded diameter to a flat diameter adjacent the rolling tire footprint, whereby forcing evacuated air from a flattened air tube segment along the air passageway.

(*Id.* at 12: 7–35 [P-0008_0020] (emphasis added).)

26. Although the applicant for the '586 Patent attempted to act as a lexicographer, only two of the patent's twenty (20) defined terms ("footprint" and "groove") are found in Claim 1 and/or Claim 18.

27. The '586 Patent's definition of the term "groove" is not relevant to either Claim 1 or Claim 18 because the definition is directed solely to "an elongated void area *in a tread*" (*id.* at 2:24 [P-0008_0015] (emphasis added)), whereas both Claim 1 and Claim 18 refer to only "a *sidewall* groove." Therefore, the Court will accord this term in Claim 1 and Claim 18 its ordinary and customary meaning.

28. The '586 Patent defines the term “footprint” to mean “the contact patch or area of contact of the tire tread with a flat surface at zero speed and under normal load and pressure.” (*Id.* at 2:31–33 [P-0008_0015].) This patent definition of “footprint” is little more than a statement of the plain and ordinary meaning of “footprint” to a person having ordinary skill in the art of *tire* manufacturing. Such a person would understand “footprint” to mean the tire tread’s area of contact with a flat surface. That is the meaning afforded by the Court.

29. The term “bending region” appears in both Claim 1 and Claim 18 but is not specifically defined in the patent. Therefore, the Court will give it an ordinary and customary meaning, informed by the Detailed Description of the Patent.

30. The “bending region” is claimed as part of the tire sidewall “having a bending strain neutral axis, a compression side of the neutral zone, and an elongation side of the neutral zone” (Ex. P-8, at 10:39–42; *see also id.* FIG-9A.)

31. The '586 Patent claims the location of the groove as “positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall.” (*Id.* at 10:43–45; *see also id.* at 9:26–32 (referencing FIG-9A and explaining that “[f]or placement of the groove and air tube, a bending region of the sidewall is selected that will experience bending strain when that region is adjacent to the tire footprint. The compression side **182** of the region **174** is satisfactory for placement of the groove and tube assembly **188** since a compression of the side **182** of the region **174** will cause the groove to close around the air tube.”).)

32. As already noted, Hrabal never specifically used the term “bending region,” but (unconvincingly) insists that his *concept* of “placing a pump . . . in the sidewall close to, and above, the rim *where the tire cyclically deforms in response to deformation*[,] (Doc. No. 223-20, at 27 (TS 24)) expresses the “bending region” concept.

33. But Benedict, who is a tire engineer, coherently and convincingly testified that the novel feature of the '586 Patent—a feature that the Court finds Hrabal did not conceive of (or even understand)—was “[a] tube closed by a compression of bending.” (Doc. No. 357, Tr. at 857.) He further testified that “bending is the key” and “cyclic deformations” are not necessarily the same as “bending.” (*Id.*) This is because “cyclic deformations of a lower sidewall could be normal. They don’t have to be bending.” (*Id.*)

34. Robert Losey, the co-inventor with Benedict of the '586 Patent (and who never attended any meeting with Coda or Hrabal, who learned about the meetings long after applying for the patent, and who never discussed the meetings with Benedict (Doc. No. 357, Tr. at 934–35)) corroborated Benedict’s testimony stating that, from “[his] knowledge of tire mechanics, [he] had a general idea for a location[,]” (*id.* at 937), and they then “found the location in the tire where it was far away from the neutral bending axis so that there was a lot of compressive forces that could pinch a tube[,] . . . [without] destroy[ing] the tube or damag[ing] the tube. And it was—it’s a tube in a groove *in that specific location.*” (*Id.* (emphasis added).)

35. Benedict also distinguished Hrabal’s explanation of his (Hrabal’s) “scissor effect,” that is, getting the most compression by placing the groove close to the neutral point (*i.e.*, the fulcrum of the scissors) from what the '586 Patent requires and claims, that is, positioning the groove “furthest away from the neutral axis [to] get[] the most compression.” (Doc. No. 361, Tr. at 1881–82.)

36. Although both Hrabal and the '586 Patent would locate the pump assembly in a groove in the tire sidewall, it is the *optimal* location within the sidewall that is key, not just the *general* fact of locating the groove in the sidewall. The Court concludes that Hrabal’s optimal

location, to the extent it can even be discerned and/or corroborated on this record,¹² is not the same as the optimal location claimed in the '586 Patent, which requires the groove to be within the compression side of the neutral axis of a bending region.

37. The '586 Patent discloses many other features but, because a putative inventor like Hrabal (Coda) seeking to be substituted as the *sole* inventor (and having abandoned any co-inventorship claim) must establish *every* limitation of *every* claim of the patent, the Court, as already noted, may properly focus on one limitation which, if not shown to have been conceived by Hrabal, precludes recovery on any claim of sole inventorship. *See, e.g., Ballard*, 268 F.3d at 1358 (finding that if one issue is dispositive, a district court need not discuss all the other issues).

38. As already noted, the '586 Patent discloses, *inter alia*, “a sidewall groove positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall[.]” Benedict explained that “if you’re looking to pinch a tube by closing the slot, you want to put it in the compression region as far as away from the neutral axis as you can so you get the motion you need to pinch that tube closed.” (Doc. No. 361, Tr. at 1881–82.)

39. Although Hrabal claims that he orally disclosed this very invention to Goodyear in 2009, prior to the issuance of the '586 Patent, there is no independent evidence to support that assertion. In fact, Hrabal’s description of what he disclosed to Goodyear during two meetings in January and June of 2009 has been vague, evasive, and at times incomprehensible, demonstrating a lack of understanding of key concepts in the '586 Patent.

¹² To attempt to corroborate its assertion that Hrabal was first to conceive of the relevant “optimal location,” Coda relies heavily on the belatedly presented MPR exhibits that have been rejected by the Court. But even if those documents were considered, they do not offer proof that Hrabal’s alleged “optimal location” was the same as the optimal location in the '586 Patent as explained by Benedict. Nor does Hrabal’s own testimony offer any clarity. Hrabal testified that, although his “optimal location” was not visible on his prototype, which employed epoxy extensions to simulate a tube-in-groove, it was “behind the extension . . . in the tire sidewall inside.” (Doc. No. 355, Tr. at 333–34.) This is simply not specific enough to prove anything.

40. In any event, Hrabal’s testimony at trial regarding his invention that he claims to have disclosed to Goodyear relies upon a “scissor effect” that would require any compression or pinching to occur *closest* to the pivot point or axis of the “scissors.” As noted by Benedict in his testimony, this is the opposite of what the '586 Patent discloses in the one limitation in both Claim 1 and Claim 18 that the Court has focused on for purposes of this analysis.¹³ Again, Hrabal’s assertion that his “scissor effect” mechanism is claimed in the '586 Patent reflects Hrabal’s misunderstanding of that patent and is simply incorrect.

41. To be even more specific, Coda claimed that one of its trade secrets related to “the optimal location for placement of a pump in a tire for tire manufacturers, namely, *in the sidewall close to, and above, the rim* where the tire cyclically deforms in response to deformation.” (See Doc. No. 223-20, at 27.) Coda claims here that this is part of what it disclosed to Goodyear, which Goodyear then patented in the '586 Patent. But, as explained previously, this fails to describe the invention described in the '586 Patent. Benedict’s testimony clarifies that Hrabal’s “scissor effect” idea of getting as close as possible to the axis is the opposite of what the '586 Patent discloses. (See Doc. No. 361, at 1882 (“You want to be as far out as you can. You don’t want to be in at the pivot point.”).)

42. In light of Coda’s failure to establish that Hrabal conceived of one of the salient features (if not *the* salient feature) of the invention disclosed in the '586 Patent—much less that he was *first* to conceive it—there is no basis upon which to find in Coda’s favor on the claim for

¹³ Claim 17 throws additional light on this limitation. It claims “[t]he tire assembly of claim 1, wherein the sidewall groove is positioned within the compression side of the neutral axis of the one said bending region of the first tire sidewall *at a substantially maximum distance from the neutral axis.*” (Ex. P-8, U.S. Patent No. 8,042,586 (emphasis added).) Although Claim 17 is a dependent claim from Claim 1 (and the Court has determined no need to focus on the dependent claims), its additional limitation exactly corroborates what Benedict credibly emphasized as the important feature of this limitation in the '586 Patent, namely, that the compression region needs to be *as far away* from the neutral axis as possible, not as Coda claims, that the compression region needs to occur *closest* to the neutral axis.

correction of inventorship in Count One of the first amended complaint and the Court need not separately examine any other parts of the relevant patent.

43. The Court also specifically rejects Coda's argument that Goodyear is merely improperly requiring Coda or Hrabal to use certain exact phrases to describe the optimal location (*i.e.*, "compression side of the neutral axis" and/or "bending region"). (*See* Doc. No. 384, at 15–16.) Coda's problem is not the failure to use any particular phrase(s). The fatal problem is Coda's failure to prove that in the 2009 meetings Hrabal disclosed to Goodyear an actual "optimal location" that he alone had discovered before anyone else, much less *where* such location might have been in a tire.

44. Coda also seeks an order of equitable assignment of ownership of the '586 Patent both because "[t]he jury verdict makes plain that the '586 [P]atent was obtained using Coda's misappropriated trade secret information[,]" (Doc. No. 378, at 9), and "given that it was obtained as a direct result of the seed Mr. Hrabal planted within Goodyear in the 2009 meetings and Goodyear's subsequent willful and malicious misappropriation." (Doc. No. 384, at 7.) The Court has separately set aside the jury's verdict of misappropriation and there is no evidence that Hrabal was responsible for planting any "seed" within Goodyear, since Goodyear was already engaged in research on its own self-inflating tire technology (albeit unsuccessfully) when Hrabal made his alleged disclosures.

45. In summary, Coda has failed to prove by clear and convincing evidence that, before December 21, 2009, Hrabal conceived a definite and permanent idea of the complete and operative inventions claimed in the '586 Patent, including every feature or limitation of the claimed inventions.

VI. ORDER

From the outset of this case, Coda's alleged trade secrets and patent conceptions have been ill-defined moving targets. Hrabal's evasive testimony at trial only further evinced that he did not fully understand the concepts and mechanics for which he claimed trade secret misappropriation, particularly as it pertained to the optimal location and bending region concepts of the invention. This is most evident when Hrabal included in his "optimal location" a "scissor effect" concept that was the opposite of the concept described in the '586 Patent.

For the reasons set forth herein, the Court finds in favor of defendants Goodyear and Benedict on Coda's claim for correction of inventorship as to the '586 Patent and that claim (Count One) is dismissed, as is the claim for joint inventorship as to the '254 Patent (Count Two) that Coda abandoned. All requests for injunctive and/or declaratory relief (Count Five) are also dismissed.

IT IS SO ORDERED.

Dated: March 31, 2023



HONORABLE SARA LIOI
UNITED STATES DISTRICT JUDGE